HEXAGON

Hexagon Imaging Sensors and Workflow

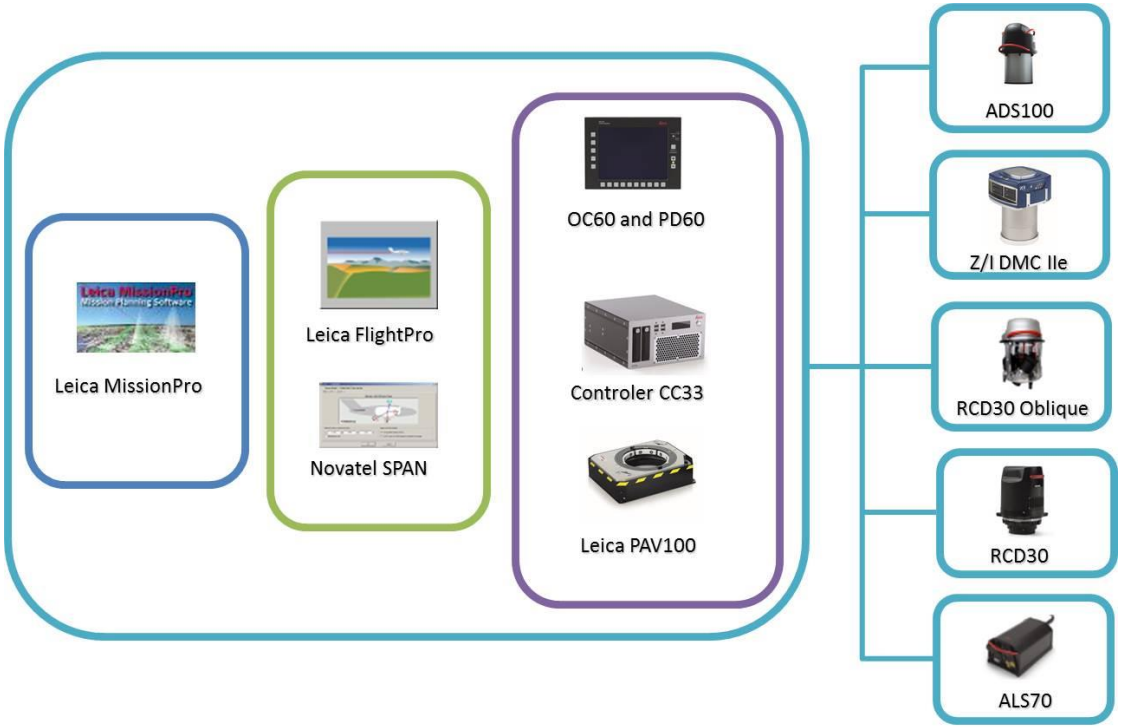
Klaus Neumann

Product Manager Imaging Sensors

A Truly Unique Portfolio

HEXAGON

Common Sensor Platform



- Common system peripherals for all Leica and Z/I airborne sensors
- Unique in industry
- Cost and training savings for our customers
- Shared components
- Flexible aircraft installation
- Synergy across all product lines
- Efficient workflow from mission planning to post processing

HEXAGON

NEW Leica ADS100 – Airborne Digital Sensor

Technical Features

- 20000 nadir pixel swath in RG(G)BN
- 5um pixel size, with TDI
- FOV 77°, 1000m AGL, 8cm GSD, 1600m swath
- RGGBN Pentachroid in FWD, BWD, NADIR
- Cycle time 0.5ms
- Stabilized lens system
- Uses CC33 as common platform
- Reduces size and weight of overall system by
- 15kg

How do our customers benefit?

- Almost doubling performance
- Improved reliability
- Unified aircraft installation
- Reduced cost of ownership

HEXAGON

Leica ADS100 – SH100

- Large area, state wide ortho photo solution up to 1m GSD
- Preferred NAIP sensor
- High productivity with 20000 pixel swath width
- Integrated high automatic workflow using XPro software
- Market leader for line sensors

HEXAGON

Leica ADS100 Workflow

3DCon

Leica Mission Pro

Leica Flight Pro

Novatel IE

Leica Xpro 6.0

SGM

Radiometry

Direct Georeferencing

Atmosphere

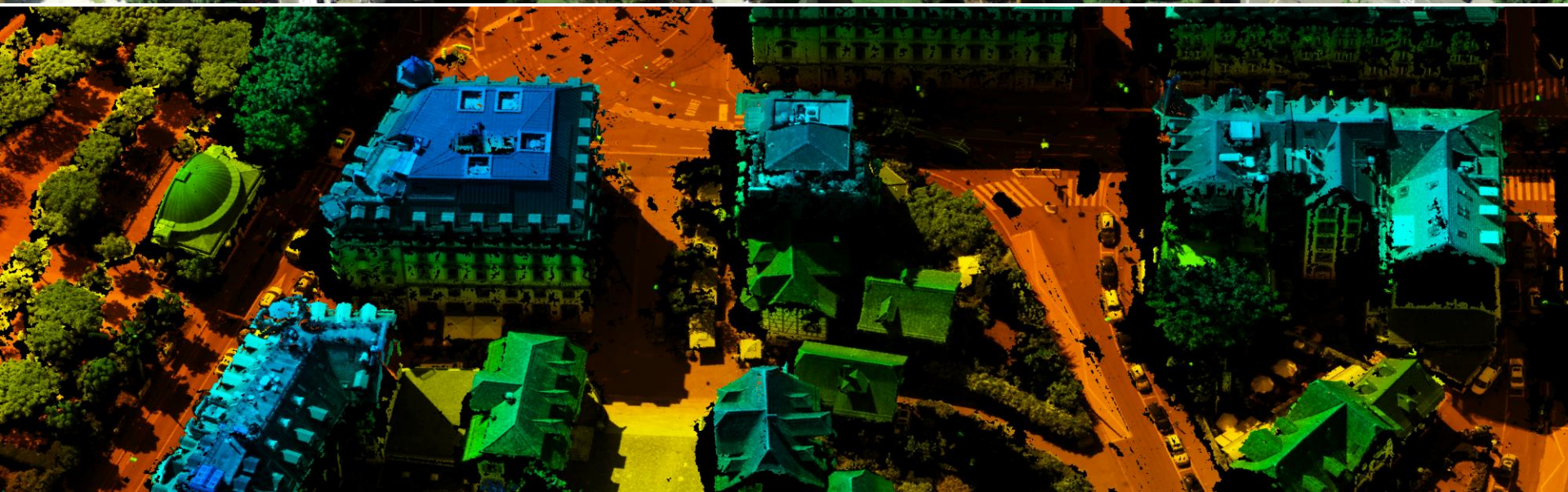
Bundle Adjustment

Orthophoto

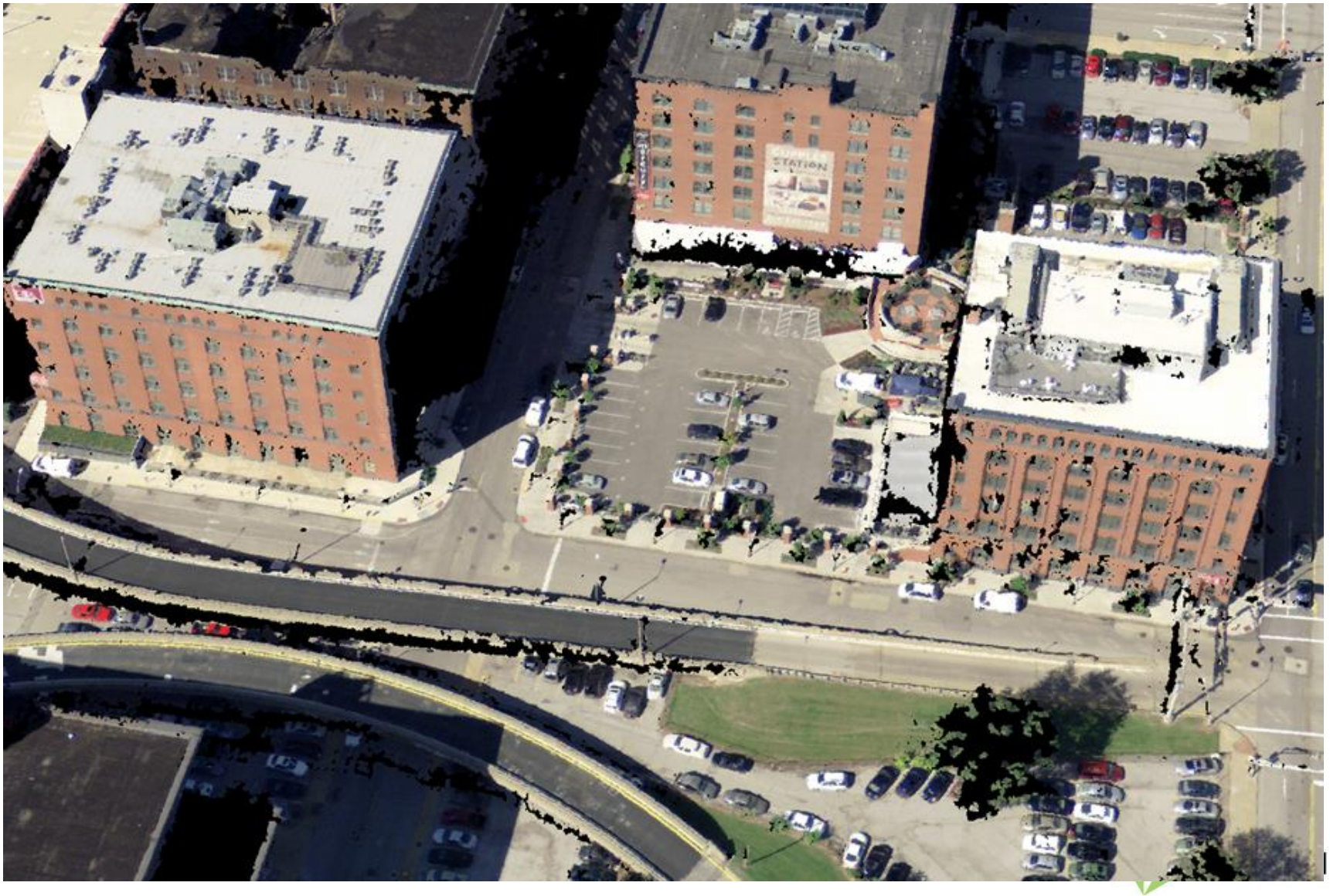
Intergraph

HEXAGON

Total Geospatial Solutions
Leica ADS and Leica XPro



XPro Product Generator – Dense DSM



The new DMC IIe camera system

HEXAGON

Z/I DMC IIe

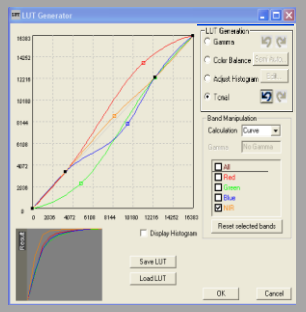
- Perfect engineering and urban mapping sensor
- for large area projects with 1 inch up to 50 cm GSD
- Very high and very stable geometric accuracy
- Single large format PAN sensor
- Supports common sensor platform
- Efficient high productive workflow using GeoCue

HEXAGON

Integrated Workflow Solution

- Full automatic workflow solution
- Enhanced radiometric functionality
- High productivity with distributed processing

Z/I PPS
DMC Post Processing Software



Distributed Processing

- Calibration
- PAN sharpening
- Geo-referencing
- Atmospheric correction
- Radiometric correction
- Color balance
- PureColor Technology

HEXAGON

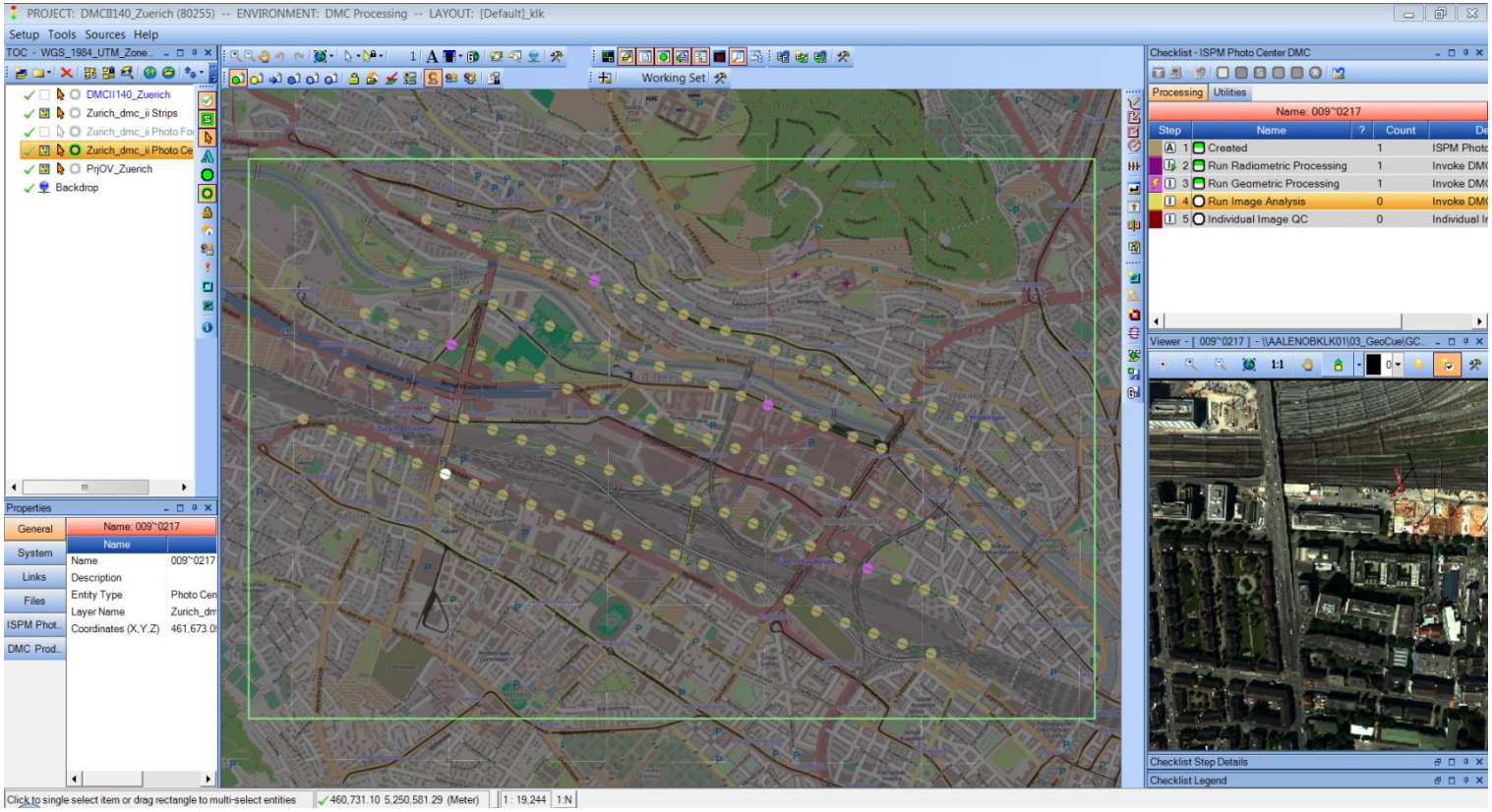
Strong Focus on Radiometric Performance
PureColor Technology PPS 6.6 & FramePro 2.0

Before

After

DMC workflow for GeoCue

Comprehensive geospatial integration framework instead of particular workflows which have grown into a logistically impossible to maintain nightmare.



HEXAGON

DMC Workflow

Z/I PPS - The only software that processes DMC.

Mission reporting (MissionPro)

→

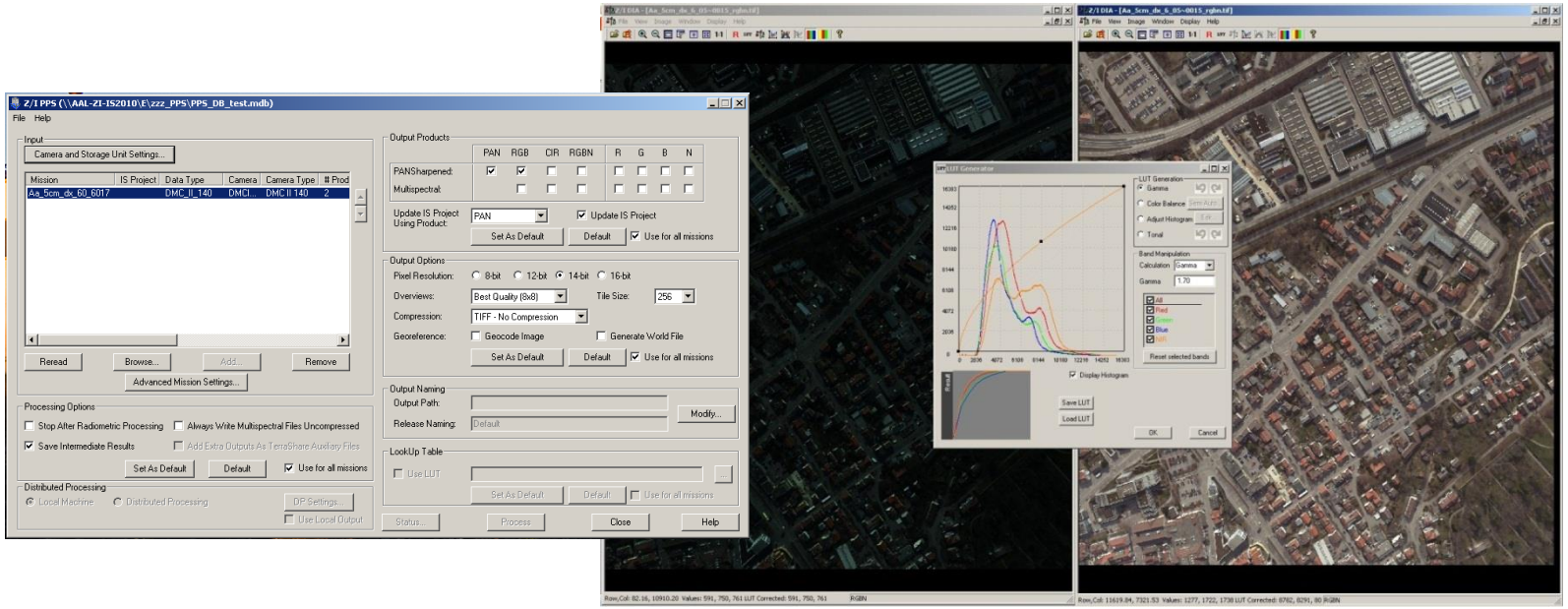
Process Sample Images (Z/I PPS)

→

Create LUT (Z/I DIA)

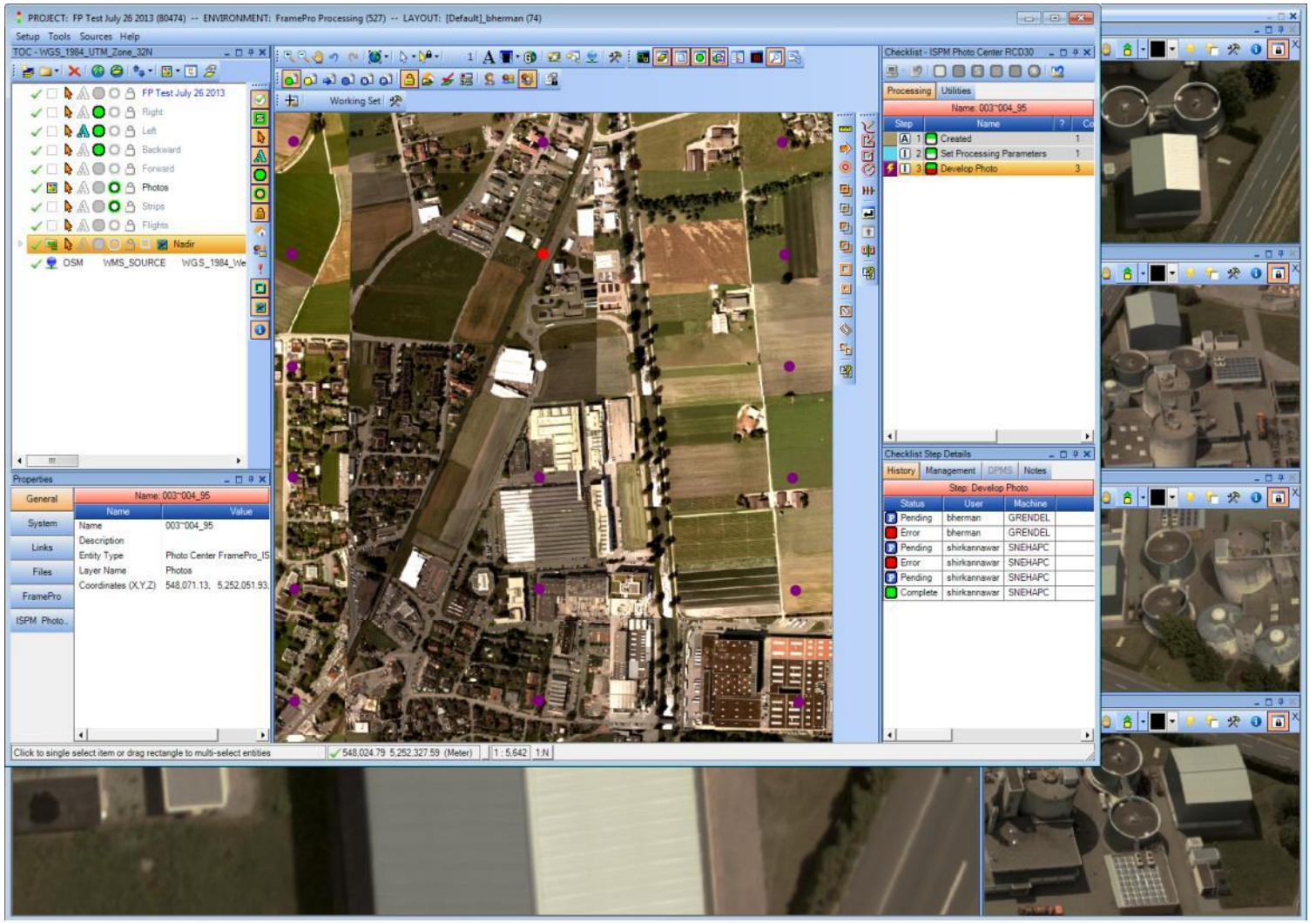
→

Process complete project with „project“ LUT (Z/I PPS)



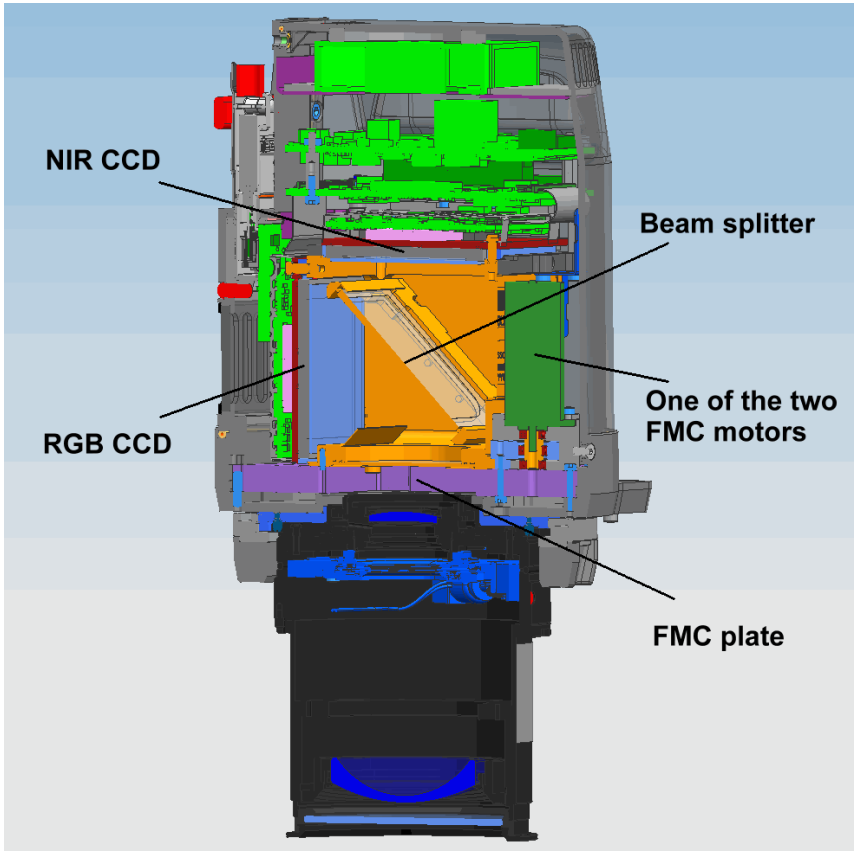
HEXAGON

Geocue CuePack for FramePro



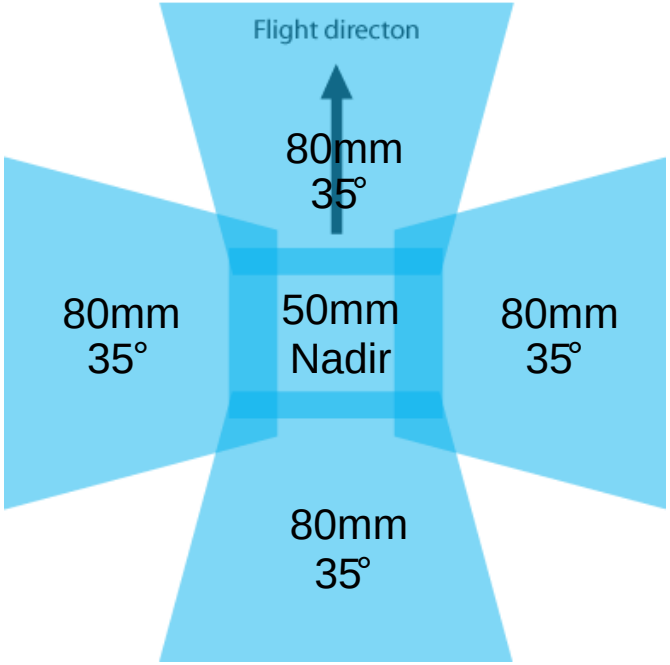
HEXAGON

Leica RCD30 – Unique Design



HEXAGON

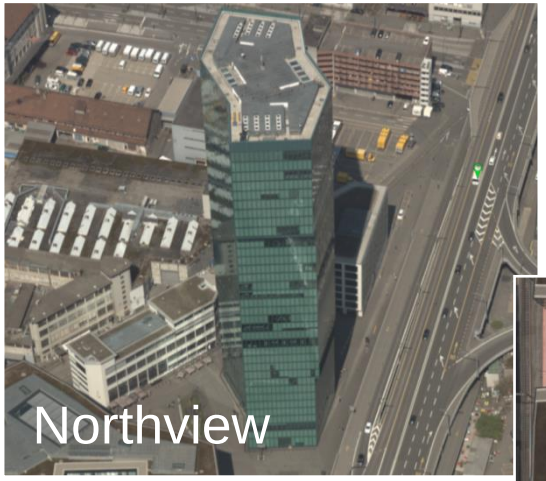
RCD30 Oblique
RCD30 Penta Configuration

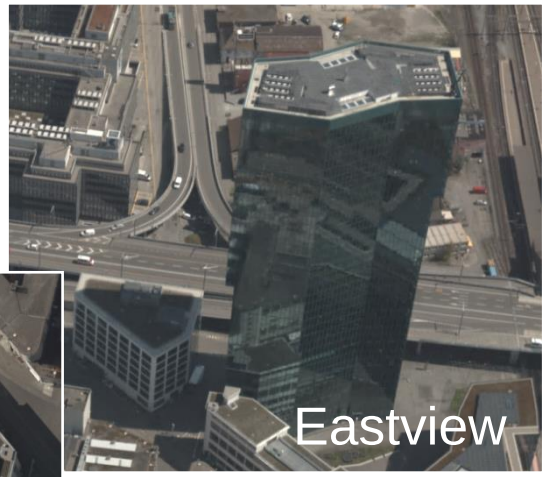


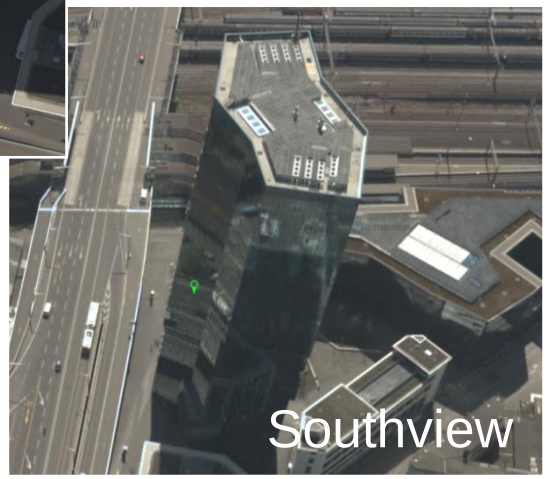
- 60 & 80 MP
- Combination of 50, 80 and 150mm (2014) lens

HEXAGON

Oblique Views







HEXAGON

tridicon® | **Outlook: Texture**

Now

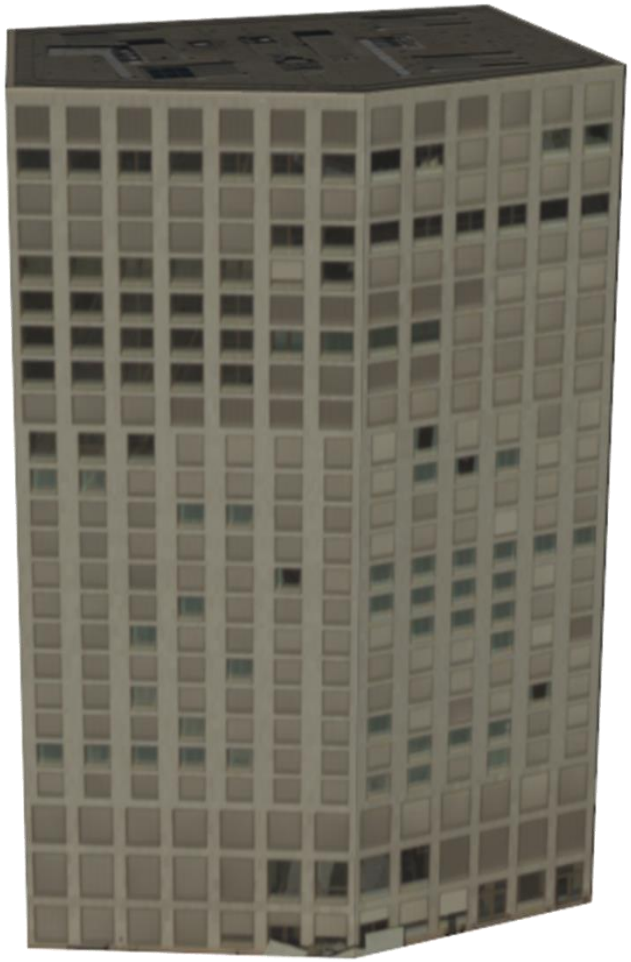
Photorealistic from oblique imagery (automatic)

Future

Photorealistic from terrestrial & mobile digital photography (now manual – future automatic)


Real Objects – not just a surface!

Building Model and Floorplans



HEXAGON

Immediate Updates of the 3D City Model

HEXAGON

Some technical figures

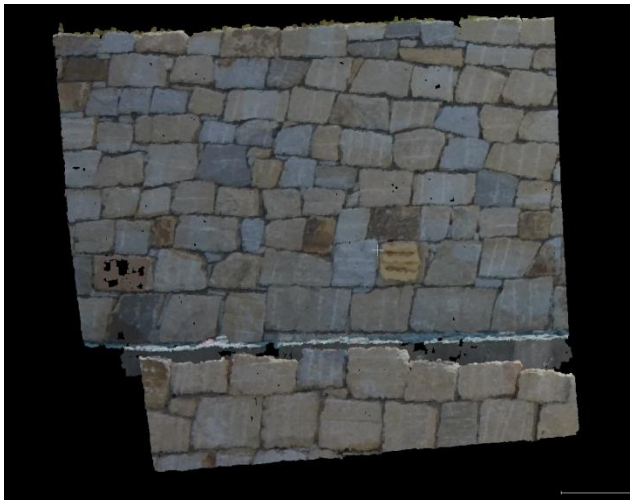
- 40 km/h fast
- 12 m/s wind
- 5 kg total weight
- 2.5kg payload

HEXAGON

Aibot X6 Dam Inspection

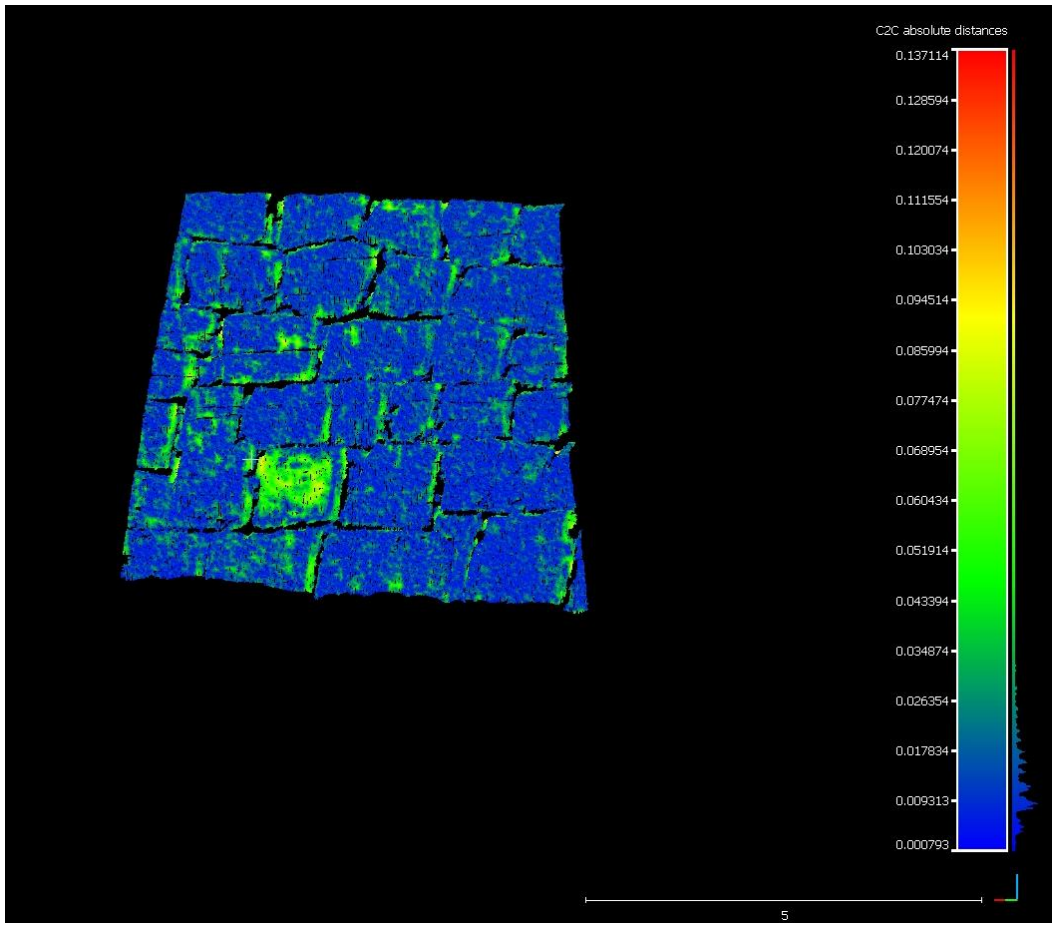
24

Change Detection from UAV



Pointcloud 1

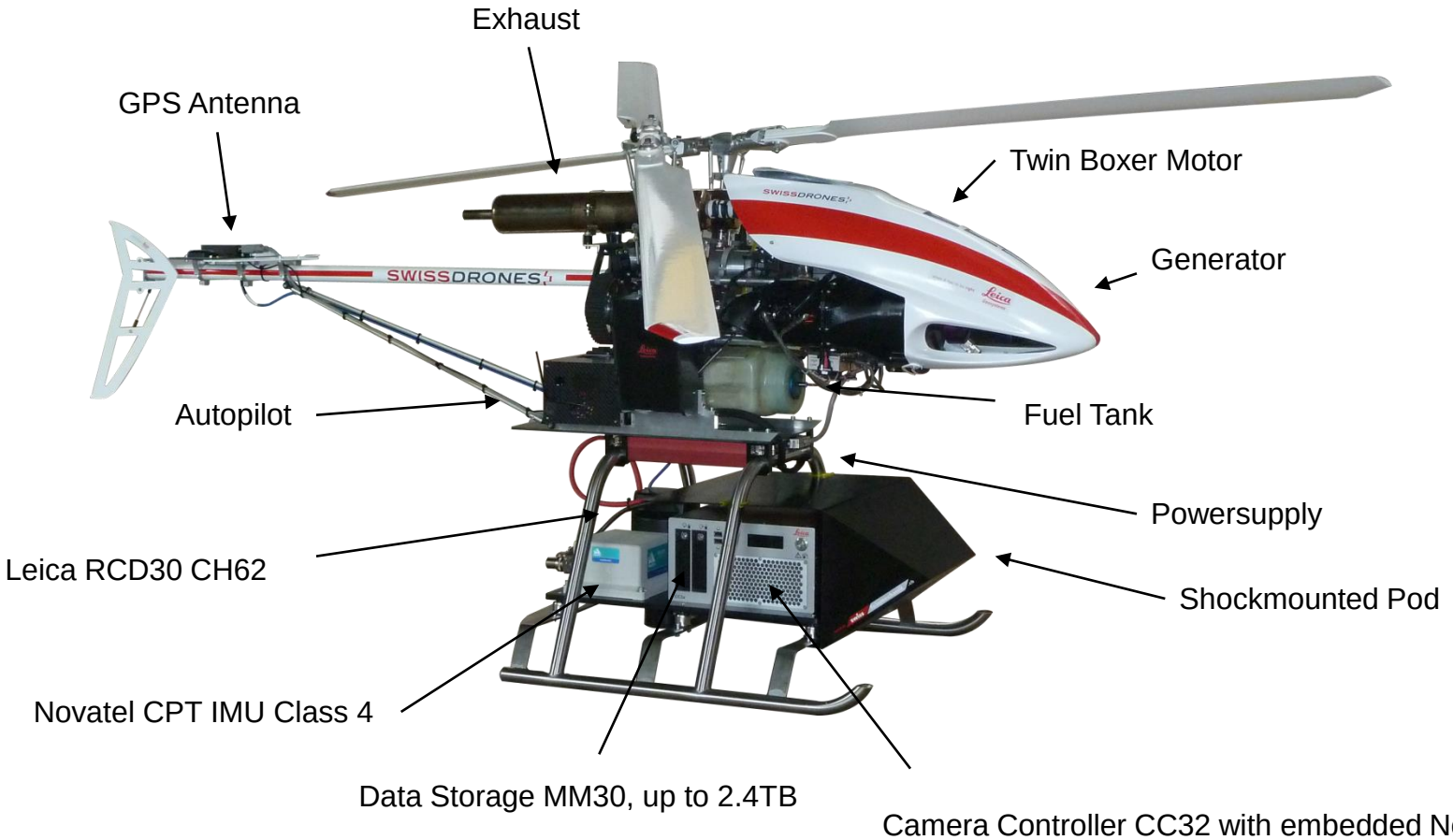
Pointcloud 2



Difference Image

HEXAGON

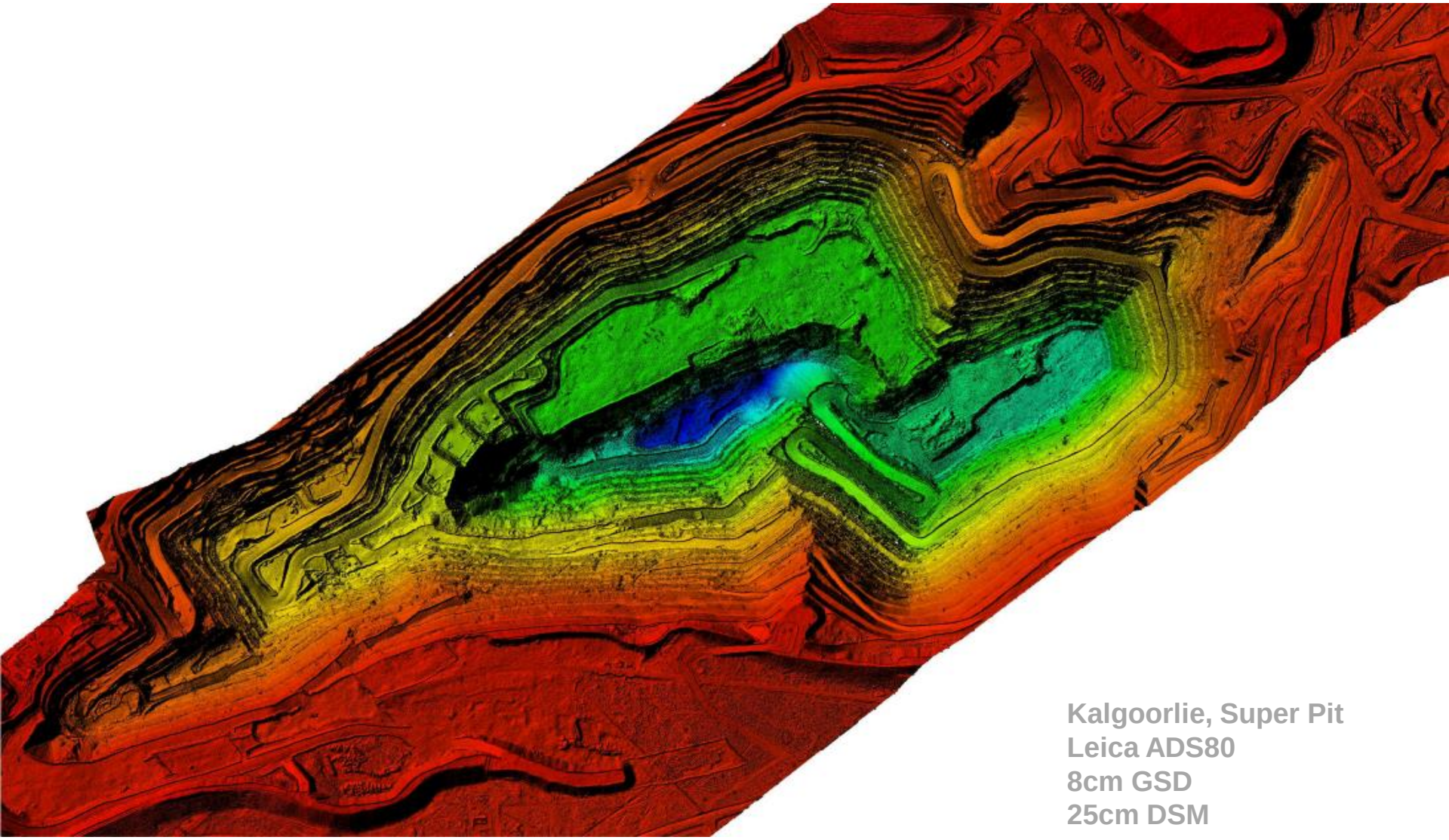
Mining & Mapping – with RCD30



SWISSDRONES
ENGINEERING UNMANNED AIRCRAFT SYSTEMS

HEXAGON

Leica SGM - Image to DSM

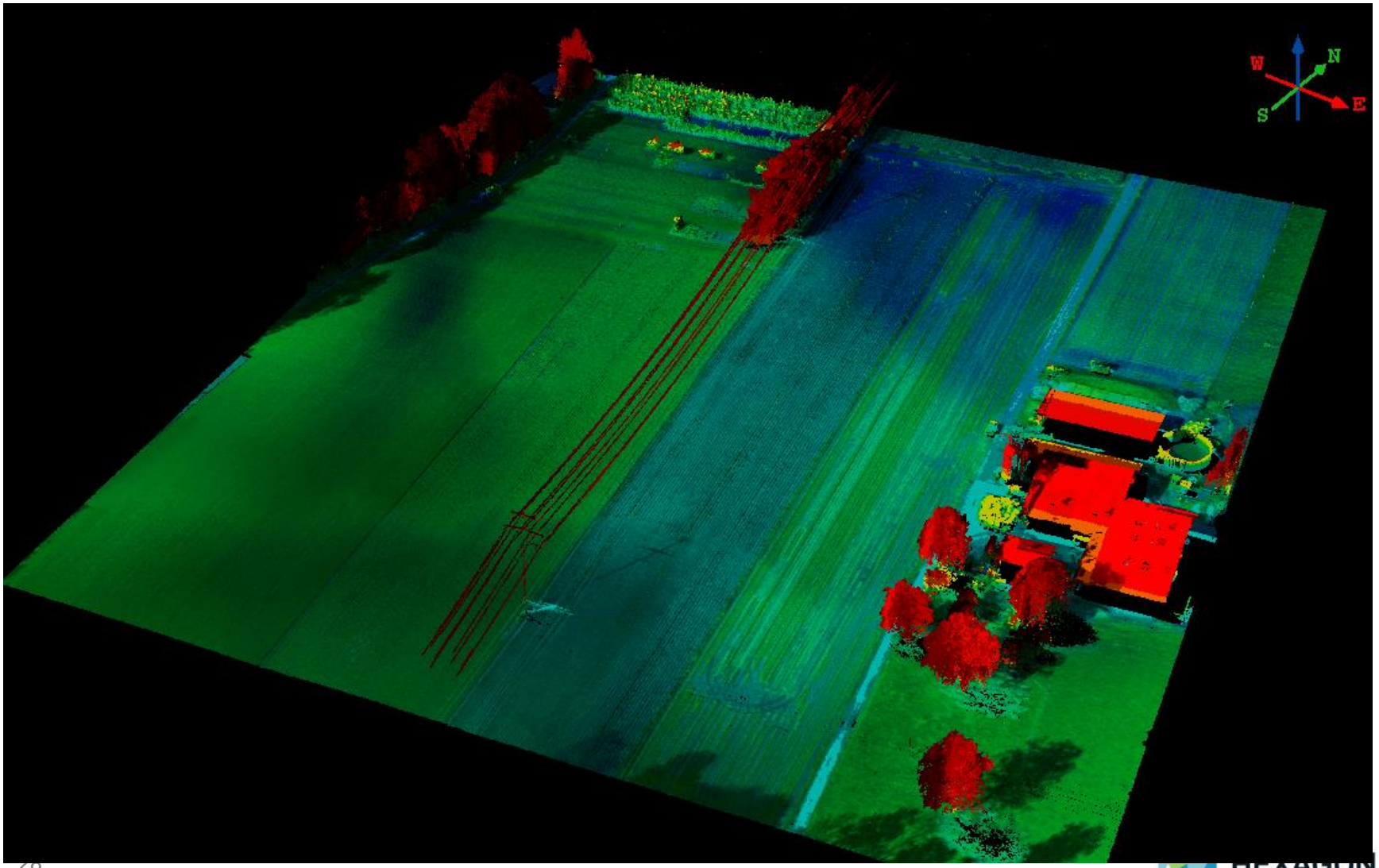


Kalgoorlie, Super Pit
Leica ADS80
8cm GSD
25cm DSM

Data courtesy of Fugro Spatial Solutions, Australia

HEXAGON

Swissdrones Dragon 35 with Lidar

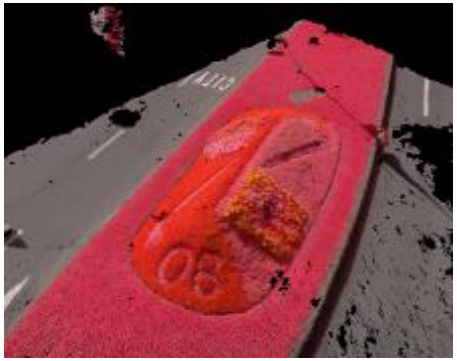


UAV for agriculture – ms camera for vegetation mapping

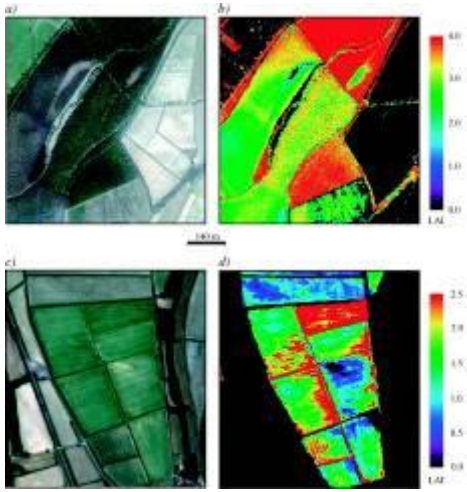
Full integration of multispectral camera

High resolution products such as NDVI maps, LAI, classified point clouds, tree modeling

Point cloud



Pointclouds specifically to map vegetation (FCIR)



LAI

HEXAGON

HEXAGON

Leica Geosystems

INTERGRAPH

We
Make the
Digital world

REAL
&
MOBILE

Thank
You!